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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Goran SUNDHOLM

Serial No.: 10/688,859 Group No.: 3752

Filed: October 17, 2003 Examiner: C. S. Kim

For: FIRE-FIGHTING INSTALLATION AND DRIVE SOURCE OF FIRE-FIGHTING INSTALLATION

Attorney Docket No.: U 014861-2

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

REPLY BRIEF

The following is appellant's REPLY BRIEF to the EXAMINER'S ANSWER of April 18, 2006.

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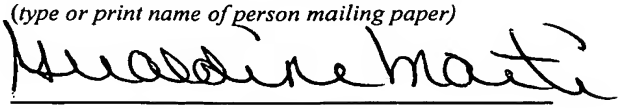

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RESPONSE TO RESPONSE TO ARGUMENT

As noted in the EXAMINER'S ANSWER, appellant's argument centers on the the claimed "flow transducer" (independent claim 1, line 7, and independent claim 8, line 6) as distinguished from the "pressure switch 58" (column 4, line 12, and column 5, line 8) of the Ohta, et al. patent of the rejection for anticipation under 35 USC 102.

As not refuted in the EXAMINER'S ANSWER:

> A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. See, *MPEP* 2131.

The claims require a flow transducer. The patent discloses only a pressure switch. Therefore, every element set forth in the claim is not found expressly in the reference.

The rejection can then be sustained only if the flow transducer claimed is inherently the pressure switch of the patent.

> In relying upon a theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows [hereafter, because of the flow subject, follows] from the teachings of the applied prior art. *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990 (emphasis in original) *MPEP* 2112 IV

Neither fact nor technical reasoning has shown that the claimed flow transducer necessarily follows from the disclosure of a pressure switch in the patent.

When a pressurized volume is large, but the flow is small, the transduceable flow will continue for a long time before transduceable pressure change. Slow-leak-flow from a tire noticeably reduces the tire pressure only after hours or days of leakage, even though the a tub

of water can transduce the slow-leak bubble immediately or, in any event, long before transduced by a tire pressure gauge. This difference in fact shows that flow transducing does not necessarily follow from pressure transducing as required for rejection.

The time difference of flow and pressure transducing is important to the fire-fighting invention of the claims and the result of the distinction of transducing flow, as claimed, and not pressure, as in the patent.

The specification explains this. In paragraph 0003 it is said, "In a typical sprinkler system ... the pipe volumes and the discharge openings ... are ... large," whereby "... the pressure drops rapidly." However, for spraying as in paragraph 0004, "... the flow is much smaller and the pressure is not reduced rapidly enough ... for the pressure sensor to react to the reduction of pressure in an acceptable time."

The appellant has provided only the functional difference of flow from pressure, because these are transduced distinguishably. A windmill transduces flow. A barometer transduces pressure. Neither of these transducers necessarily follows from the other.

It is true as stated in the EXAMINER'S ANSWER that the pressure switch of the Ohta, et al. patent can indirectly measure flow, but this is not to say that one is inherent (necessary) from the other. It is well known that gas (per paragraph 0001 of the specification, for example) pressure P times volume V is expressed by $PV = \eta rT$ where ηr are constants and T is temperature. In other words, gas pressure can change by temperature without flow, whereby transducing the pressure or its drop does not necessarily follow from flow, or vice versa, as required for the rejection.

It is true as stated in the EXAMINER'S ANSWER that Ohata's pressure drop is indicative of flow, but "drop" can only be determined by a difference of one pressure dropped from another. Time must pass between the one pressure and the other. That time is an inherent delay difference of transducing pressure in the patent from flow in the claims. This shows again that the description of pressure in the patent does not inherently (necessarily) describe the flow of the claims as required by *MPEP* 2131 for the rejection.

The EXAMINER'S ANSWER cites a definition of flow as "to move." However, no corresponding definition of pressure movement is cited to show it inherently the same as flow as required by *MPEP* 2131 for the rejection.

The appellant has earlier (e.g., Response of 14 October 2005) stated that the working of a pressure sensor is slow when compared to the working of a flow sensor, especially if the amount of extinguishing medium is small, as it is when the extinguishing medium is sprayed water mist, whereby one does not necessarily follow from the other in practice any more than in expression, drop or movement.

For example, if the sensor 2 in the application were a pressure sensor (in contrast to the flow sensor claimed for it) and has been set for a value of 8 bar, i.e. the pressure sensor 2 reacts and starts the pump unit 5 if the pressure in the supply pipe 3 drops below 8 bar, then, if sprinkler 4 (having a small nozzle in order to spray mist) releases, a typical gas bottle having a volume of 50 l and a charge pressure of 200 bar, manages to keep in the supply pipe 3 a standby pressure of 8-15 bar for several minutes. This means that the pressure sensor 2 would start the pump unit 5 only these several minutes after the sprinkler has released.

In contrast to this, when the sensor is the flow transducer claimed, then even a small flow - as the one created by only one sprinkler (4) releasing - creates a flow in the supply pipe 3 which is detected immediately, and the pump unit 5 is started immediately. Owing to this

exemplary difference of the "reaction time," the difference of the flow-transducer claimed from the pressure switch of the Ohta, et al. patent is not de minimis.

Respectfully submitted,

William R. Evans
c/o Ladas & Parry LLP
26 West 61st Street
New York, New York 10023
Reg. No. 25858
Tel. No. (212) 708-1930